

is inferior, and more nearly approaches that of the coal in the millstone-grit and shale series.

The superior excellence of the coal of this formation in quality, over every other, is sufficiently known. The quantity of coal raised annually in this district, and sent to London, and the whole east and south coasts of Great Britain, is quite enormous. Shields and Sunderland are the two places from which they are exported; and a curious distribution of the trade has taken place, depending upon the size of the two rivers. The Tyne vessels are large, and are therefore chiefly destined for the London market. The Wear vessels, on the contrary, are so small, that they can make their way into the small rivers and harbours all over the kingdom, and therefore they supply the whole east and south coasts as far west as Plymouth.

To form an idea, says Dr. Thomson, of the quantity of coal contained in the formation called the coal-measures, let us suppose it to extend in length from north to south 23 miles, and that its average breadth is eight miles. This makes a surface amounting to rather more than 180 square miles, or 557,568,000 square yards. The utmost thickness of all the beds of coal put together does not exceed 44 feet; but there are eleven beds not workable, the thickness of each amounting only to a few inches. If they be deducted, the amount of the rest will be 36 feet, or 12 yards. Perhaps five of the other beds likewise should be struck off, as they amount altogether only to six feet, and therefore at present are not considered as worth working. The remainder will be ten yards; so that the whole coal in this formation amounts to 5,575,680 cubic yards. How much of this is already removed by mining I do not know, but the Newcastle collieries have been wrought for so many years to an enormous extent, that the quantity already mined must be considerable. I conceive the quantity of coal exported yearly from this formation exceeds two millions of chaldrons; for the county of Durham alone exports $1\frac{1}{3}$ millions. A chaldron weighs 1.4 ton; so that 2.8 millions of tons of coals are annually raised in these counties out of this formation. Now a ton of coal is very nearly one cubic yard; so that the yearly loss from mining amounts to 2.8 millions, or (adding a third for waste) to 3.7 millions of yards. According to this statement, the Newcastle coals may be mined to the present extent for 1500 years before they be exhausted. But from this number we must deduct the amount of the years during which they have been already wrought. We need not be afraid then, of any sudden injury to Great Britain from the exhaustion of the coal mines. It is necessary to keep in mind, likewise, that I have taken the greatest thickness of the coal-beds. Now as